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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/722,835 | 11/26/2003 | Alexander Hahn | 870-003-162 | 8168 |

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| EXAMINER | |
|---|---|
| MCCLOUD, RENATA D | |
| **ART UNIT** | **PAPER NUMBER** |
| 2837 | |

DATE MAILED: 06/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/722,835 | HAHN ET AL. | |
| | Examiner | Art Unit | |
| | Renata McCloud | 2837 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *26 November 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6,9,12-15 and 18* is/are rejected.

7)☒ Claim(s) *7,8,10,11,16,17,19 and 20* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *04/09/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☒ Other: *See Continuation Sheet*.

Continuation of Attachment(s) 6). Other: Misc NPL document submitted by Applicant.

## DETAILED ACTION

### *Information Disclosure Statement*

1. Applicant submitted an NPL document (see attached document) that was not listed on the information disclosure statement filed 04/09/2004, and does not appear to be part of any of the other NPL documents submitted. The document has not been considered by the examiner.

### *Claim Objections*

2. Claims 1 and 120 objected to because of the following informalities:

Referring to the preamble, it has been held that the recitation that an element is "adapted to " perform a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense (In re Hutchinson, 69 USPQ 138). Because of this, the limitation "said AC voltage source" recited in the body of the claim has been given no patentable weight.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims1, 2,9,12-15 and18 are rejected under 35 U.S.C. 102(b) as being anticipated by Karwath (US 6008602).

**Claim 1:** An electronically commutated motor (10) that is adapted to be powered from an AC voltage source (28,30 it has been held that the recitation that an element is "adapted to " perform a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. In re Hutchinson, 69 USPQ 138) and that comprises: a stator (11); a rotor (14); a rectifier (44) which serves to generate, a pulsating DC operating voltage, a DC link circuit (46,52) with positive and negative leads, said pulsating DC voltage from said rectifier being applied between said positive and negative leads, a bridge circuit (Fig. 3:100,102,104,106), connected to the DC link circuit (46,52) and serving to supply current to the at least one winding phase, said bridge circuit comprising a switching element (100,102,104,106) that is controllable by a control voltage that is lower than the operating voltage to be switched by said switching element (Abstract, Claim 1); and an auxiliary circuit (66,68,70) for generating, from the pulsating DC voltage at the DC link circuit (46,52) and from the AC voltage (28,30) said control voltage for controlling the switching element (100,102,104,106), said control voltage being lower than the pulsating DC voltage by a predetermined voltage difference (Abstract; Claim 1).

**Claim 2:** the switching element is a p-channel MOSFET (Fig. 3: 100,102,104,106) having a source electrode which is connected to the positive lead of the DC link circuit (46,52) and having a gate electrode to which the control voltage is applied.

**Claim 9:** a commutation logic unit (16,18), and a plurality of control elements (Fig. 3:110,112) adapted to be controlled by said commutation logic unit (20) (it has been held that the recitation that an element is "adapted to " perform a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. In re Hutchinson, 69 USPQ 138) and which in turn serve to control the switching element (100,102,104,106).

**Claim 12:** An electronically commutated motor (10) that is adapted to be powered from an AC voltage source (28,30, it has been held that the recitation that an element is "adapted to " perform a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. In re Hutchinson, 69 USPQ 138) and that comprises: a stator (11); a rotor (14); a rectifier (44) which serves to generate, a pulsating DC operating voltage, a DC link circuit (46,52) with positive and negative leads, said pulsating DC voltage from said rectifier being applied between said positive and negative leads, a bridge circuit (Fig. 3:100,102,104,106), connected to the DC link circuit (46,52) and serving to supply current to the at least one winding phase, said bridge circuit comprising MOSFETs (100,102,104,106); and an auxiliary circuit (66,68,70) for generating, that is negative with respect to the positive lead of the DC link and renders a p-channel MOSFET conductive (col. 4:18-30).

**Claim 13:** the auxiliary voltage is generated at a first capacitor (Fig. 2:70) one electrode of which has a potential of the positive lead of the DC link (Fig. 2: +12V).

**Claim 14:** a zener diode (Fig. 2: 68) in parallel with the first capacitor (70).

**Claim 15:** a resistor (66) in parallel with the first capacitor.

**Claim 18:** bipolar transistors (110,112) controlled by a commutation logic unit, (18,16).

### *Claim Rejections - 35 USC § 103*

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 3-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Karwath as applied to claim1 above, in view of Eckardt et al (WO200250897).

**Claim 3:** Karwath teaches the limitations of claim 1. Referring to claim 3, Karwath does not teach the auxiliary circuit further comprises a first capacitor, connected in series with a diode (102) between the positive lead (30) of the DC link (15) and a first one (106) of two terminals of said AC voltage source. Eckardt et al teach an auxiliary circuit comprises a first capacitor (Fig. 9:c2), connected in series with a diode (D) between the positive lead (30) of the DC link (C1) and a first one of two terminals of said AC voltage source (18). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus of Karwath to use the auxiliary circuit of Eckardt et al. The advantage of this would be a low cost method of controlling the amount of current applied to the motor.

**Claim 4:** Karwath and Eckardt et al teach the limitations of claim 3. Referring to claim 4, Eckardt et al teach a voltage limiter (Fig. 9:60,62) in parallel with the first capacitor (Fig. 9:C2).

**Claim 5:** Karwath and Eckardt et al teach the limitations of claim 4. Referring to claim 5, Eckardt et al teach a zener diode (Fig. 9:60,62).

**Claim 6:** Karwath and Eckardt et al teach the limitations of claim 3. Referring to claim 6, Eckardt et al teach a resistor (Fig. 9:56) in parallel with the capacitor (c2).

## *Conclusion*

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Renata McCloud whose telephone number is (571) 272-2069. The examiner can normally be reached on Mon.- Fri. from 8 am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Martin can be reached on (571) 272-2800 ext. 4. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Renata McCloud
Examiner
Art Unit 2837

RDM

MARLON T. FLETCHER
PRIMARY EXAMINER